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Notes:

Meeting with Kirk Mandy

Chair, Steering Committee

September 23, 2002

15:00 – 16:10

Background Info:

- 1) Discussion on ultimate report format:
 - Discussed some of the challenges in putting the report together, particularly the mayor's letter to the carriers. Kirk suggested that we draft the report as promised for October 3rd. At that time we will meet with the committee, go over what has been presented and determine how to overcome outstanding issues or delays.
 - Discussed the varying underlying goals of each of the steering committee members and others who have been interviewed. Kirk suggested that interview notes should be included in the report as an Appendix.
 - Much of the other background information should be handled in the same way, as Appendices such as Technical, Other Community Initiatives, Access Technologies, bandwidth growth estimates etc.
 - Comments about this initiative and the proactive approach taken by the City of Ottawa should be included in the report.

- 2) Recommendations
 - a. Since this is a strategy document, a strategy and planning process must be established.
 - b. The City has to lead in this area. The goal must be for the City to deal with planning with telecom planning in Ottawa being treated with the same importance as other infrastructure like roads, water sewers etc.
 - i. The City must take on the formal telecom planning function and it should include:
 1. A vision of the future for telecom infrastructure and services in the City,
 2. Procedures and Policy implementation within the city for telecom
 - ii. This City function should also be responsible for:
 1. Internal City communication needs and costs
 - a. Optimize uses and the costs associated with them.
 - b. Cost containment should be centralized in this function.

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Notes:

Meeting with Rob MacKay

**City of Ottawa
September 30, 2002
11:00 – 12:00**

Background Info:

- 1) Governance:
 - a. The City must take the lead and responsibility to make it happen
 - b. A staff position is a good idea with that staff person:
 - i. At the Director level or higher
 - ii. Responsible for:
 1. Strategy and Planning for both the community initiatives and
 2. For connectivity and telecom services within the City organization and
 3. Coordination of “public” and City needs.
 - iii. Must understand not only telecom and the options for rural connectivity but also:
 1. Networking with the Ottawa business community and the Ottawa development community
 2. Leveraging among the various groups needing connectivity, like the school boards and the City needs.
 3. The requirements to establish new budget for approval at Council
 4. Collaborative builds in the urban and rural areas
 5. Possible incentives for connectivity.

- 2) Ongoing Requirements
 - a. Updates to the plan that is developed should be recommended in the plan. As situations and technology changes, the plan may require modification.
 - i. Carriers should be able to help with this type of updating on a regular basis.
 - b. For developers:
 - i. The requirement for this must be demonstrated either through customers asking for it (which is not currently the case for most developments) or through a future need.
 - ii. Rob feels that developers will resist installation costs of infrastructure until a need can be shown. Possibly a duct system installed could be justified to the development community where the cost of a fibre system in those ducts would be difficult and face significant resistance.

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- 3) Equity Issues:
- a. According to the Terms Of Reference, all residents of Ottawa should have access to broadband connectivity.
 - i. Currently there is no low cost technology that can do this. (If this is the case, then this needs to be explained in the plan with options to correct the situation. Keep up with technology options as they arise. Offer Ottawa as a test bed for new technologies that can extend coverage into uncovered areas etc):
 1. Wireless requires line of sight.
 2. DSL and Cable Modems require the firms that provide that type of service to offer the service. In small communities and/or hamlets, there is no business case for these services to be offered.
 3. Satellite is available for everyone but it comes at a higher price.
- 4) Making the Case for the Need and for Implementation
- a. A case may need to be presented that the City antennae towers should be looked at for increased height to allow for broadband service provider antennae to be installed on them. Financial impacts of this should be included in the plan.
 - b. Discussed the current “take rate” of broadband services when they are available. (10 to 20%).
 - c. If this is the case, why move forward with this initiative? The strategy document needs to address this issue even though it is outside the scope of the work:
 - i. Applications currently available and under development (health care, education and local government)
 - ii. A long range view of needs should be proposed versus the situation today. Use examples of Apps that affect and are for residential users:
 1. Entertainment
 2. Health
 3. Education
 4. Local Government (see notes of meeting with Seymore Diener)
 5. Etc.
 - d. For Council to approve this strategy we must demonstrate why it is important for Ottawa:
 - i. The case for the need must be made
 - ii. The strategy must address the 5 Visionary statements in the 2021 plan.
 - iii. All wording must be kept straightforward and direct. Councilors will not generally understand the technical issues.
 - iv. Council motivation is to:
 1. Not spend money to install infrastructure

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2. Avoidance of other expenditures if possible:
 - a. Examples of efficiency and/or service improvement through implementation.
- v. We need to address:
 1. Take rates of broadband services today and into the future
 2. Applications into the future that will drive the need
 - a. The City could take the lead on applications to improve and enhance municipal services to the public.
 - b. See March Networks apps for health care examples.

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Notes:

**Meeting with Ed Lemaire
Steering Committee, Health Care
September 24, 2002
14:00 – 15:00**

Background Info:

1. Uses and Issues for Broadband and Healthcare
 - a. Many applications are already in place for broadband to be required in the home and small offices (for neighbourhood health care facilities and offices):
 - i. Monitoring of equipment
 - ii. Follow-up treatment including video facilities
 - iii. Exercise regimens including video
 - iv. Education programs
 - v. Medical imaging and file transfers
 - b. New coming applications:
 - i. Remote configuration of health devices
 - ii. White boarding of training and information
 - iii. Education for health care professionals
 - iv. VPNs for staff to access and work online with the health care facility information and servers.
 - v. Peer to peer apps are growing substantially with multi party video conferencing.
 - c. In the health care field all of these applications must be both reliable and secure.
 - d. Cost issues are significant for some of the community facilities in the field:
 - i. Nursing homes
 - ii. CCACs
 - e. Many of the smaller community hospitals are already getting connected through the Smart Systems for Health initiative.
 - i. This initiative also applies to health care professionals.
 - ii. In Ed's view, education in health care is the main driver of broadband to the home and small offices.
2. Issues:
 - a. Quality of service is not acceptable today. Reliability of connections and bandwidth required is not consistent from the service providers.
 - i. A minimum of 200Kbps is required for most applications in use today. Future requirements may be higher.
 - b. In small communities, Ed feels the result could be that the City should become the ISP if private firms will not provide that service.

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- c. Some of the Provincial special care facilities are competitive with other parts of the Province. High speed connectivity is critical to be able to provide this special care beyond Ottawa.
 - i. The Hospital network currently has 50Mbps of connectivity to HealthNet.
 - ii. This network is managed to provide prioritization for video services.
 - d. There is an advantage in being able to provide services to the Ottawa area without using the telecom network outside of the City. IP connectivity when going through a NAP (like Chicago) can become an issue with latency and reduced bandwidth capability.
3. Governance.
- a. Ed feels it must be coordinated by the City.
 - b. A small advisory board would assist in providing feedback and direction. Ed mentioned that committees aren't very effective at making decisions. That is his rationale for suggesting an advisory board.
4. Bandwidth Definition
- a. 1.5Mbps is not an effective definition of broadband services for today's environment.
 - b. Ed feels that the definition could be "better than 56Kbps" as broadband. For the applications currently needed within healthcare, broadband at 128Kbps would be adequate.
 - c. Ed uses a video camera by Polycom for his video facility in his office. It does an adequate job at 128Kbps. (It gets better as the bandwidth increases).

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Meeting with John Hindle

Ottawa Carlton District School Board (OCDSB)

September 23, 2002

13:00 – 14:15

Background Info:

1. OCDSB Network

- a. John mentioned that the OCDSB has one of the largest networks of its type in Ottawa.
- b. When they look at changing their network provision, they look at a cost/benefit analysis of the services to determine how they will change what they do on the network.
- c. John feels that there is a good opportunity for the “public sector” group to work more closely in coordination of services on a fee for service basis.
 - i. The example he used was for technical call centre support. Many of the public sector entities use the Microsoft Office Suite of software and have technical staff available to answer software related issues. Perhaps money could be saved by all if a shared/fee for service call centre was used.
- d. The OCDSB network currently connects with other “partners” in other countries to allow students the opportunities to share in other cultures etc.
- e. Many of the applications that make high speed connections important for homes could be available today within the Board
 - i. Services for students in health care facilities to maintain their school work
 - ii. Home schooling
 - iii. Library type services
 - iv. E-learning and upgrade training for teachers can be more effectively accomplished with home users.
 - v. There are some hardware issues with some applications such as video streaming to the schools. As time goes along these issues are being resolved.
- f. The goal today for school connectivity is to have 100Mbps Ethernet to all secondary schools. Currently many elementary schools are at 1.5Mbps under the existing carrier’s contract.
- g. The Board also has a preference for 1 technology to connect all schools to eliminate the complexity of multiple technologies.

2. Rural Community Issues:

- a. For rural students, home connectivity has added importance with many rural homes not having access to high speed connectivity.

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- b. Today's students understand the technology and senior students are capable of making it work because of this comfort level.
 - c. John feels there should be a user pay principal employed for rural connectivity. In his view, equitable means fair but that may be unequal.
 - d. They are finding more often that homes will not have a "land line" phone connection but will use cell phone service. This situation eliminates the option of DSL connectivity through the phone company.
3. Governance
- a. A collateral agreement among the service providers should be established to avoid multiple infrastructure installations and make the business case easier for a carrier to serve a rural community.
 - b. The City has to lead in this initiative and has to put the needs of this initiative above their own needs as users of the network.
 - c. The governance group should have 4 or 5 members with an advisory board.
 - i. The advisory Board should have representation from:
 - 1. High tech
 - 2. Developers
 - 3. Federal Government
 - 4. Museums
 - 5. NCC
 - 6. Condo owners (representing the retirement community)
 - d. Collaborative opportunities should be developed both for the users and for the service providers.
4. OCDSB Uses
- a. Applications and administrative data networking could be on-line
 - i. Having this capability could change the way the OCDSB does business.
 - b. Adult learning and the resulting revenue opportunities could be enhanced through high speed services to the home.
 - c. Collaboration among the educational community could enhance what's available and how it is delivered.

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Notes:

Meeting with Claude Dufresne

University of Ottawa

September 16, 2002

09:45 – 11:00

Background Info:

1. Current contract with Telecom Ottawa
 - a. The university has some services provided through Telecom Ottawa. We spent some time discussing their desire for dark fibre versus what carriers would provide. Although they have some dark fibre from Telecom Ottawa (from the campus to City Hall), they would like to have dark fibre to meet all of their needs. The link to City Hall is quite important to them because of the tie to the ORION POP.
2. Technology
 - a. The University is one of the most high tech for on campus services in the Country.
 - b. They have a desire to provide a “hybrid” teaching method with some classroom teaching and some home based learning. In order to effectively do this they need broadband services to the home available for all of their students.
 - i. DSL is not universally available throughout the urban area.
 - ii. Rogers cable modem service is more widely available but is not universal either (see notes on meeting with Carol Ring from Rogers).
 - iii. Claude was not sure of the services available through Storm or their coverage capabilities.
 - c. Pricing of services (Price is an obstacle for many students):
 - i. The University negotiated a deal with Rogers that results in savings of approx. 35% from regular pricing with up front payment by the student.
 - ii. Bell were unwilling to negotiate a pricing deal without additional requirements for the university’s own needs to be consigned to Bell.
 - iii. No deal has been negotiated with Videotron although approx. 35% of the students live in Quebec.
 - d. Applications:
 - i. The two main needs for broadband home services are for library services and interactive instruction.
 1. Library Services
 - a. A significant amount of the library resource material is available in digital format.

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Particularly periodicals and publications. These are relatively large files and are not conducive to dial up speeds. Libraries available through this service include many of the Canadian Universities.

2. Interactive Instruction (Most of this information was provided by Christian Blanchette (562-5768) who joined the meeting for this portion):
 - a. They have tried two way video conferencing with home based students. Lack of synchronous service is a problem.
 - b. Hasn't worked well because of the limited upload speeds available (average of 74 Kb). Download has been okay. Interactive sessions were not possible in most instances because of the upload limitations.
 - c. Multicasting equipment on the service provider's network is not available. Without the capability to multicast, bandwidth usage and cost is too high to make this service viable.
 - d. Local caching is needed to provide this service in a cost effective manner.
3. They have done some videoconferencing (mainly with other schools) with 40% being done over IP. This has generally been done over CANNET 3 or 4.
 - a. Videoconferencing needs approx 386 Kb synchronous service. Has not worked on Rogers or Videotron networks.

3. Definition of Broadband

- a. Claude agreed that the definition of Broadband in the ToR would mean that very few residents in Ottawa have broadband. (residential DSL and cable modem services are significantly below the 1.5 Mb threshold).
- b. The definition in the ToR should likely be modified so that residential "high speed" options currently available would meet the term broadband.

4. Claude's View of the Role to be Played by the City

- a. Enable high bandwidth services for residents of Ottawa.
- b. Inter-institution connectivity is important at Gb speeds.
- c. The City should provide support for the ORAN initiative.
- d. The members of this initiative should provide seed and ongoing funding for this infrastructure upgrade.

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- i. School Boards as an example have limited budgets. The City and possibly the Universities have money available and it should be used to make this initiative successful.

- 5. Additional Research that could be of interest:
 - a. In 2000, the Min of Ed did a report on the OKNL (Ontario Knowledge Network for Learning?). This report is likely on line at the Ministry web site. It discusses among a lot of other things, the applications coming in education that could be employed with broadband services.
 - b. An initiative to make Ottawa a “Global Learning Centre” similar to the OCRI concept.

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Notes:

Meeting with Jack Stirling

Minto Development

September 17, 2002

09:00 – 10:00

Background Info:

1. Minto
 - a. Minto is a very large firm with development activities taking place in Ottawa, Toronto, Aurora and Florida among other places.
 - b. They do residential subdivisions as well as large commercial developments, office towers, condo towers etc.
 - c. In the Ottawa area they develop approx 30 – 40% of all new residential lots and are the largest landowner in the developer field in the area. They have 10,000 - 12,000 rental units.
2. Permitting and Municipal Issues
 - a. Two years ago, before amalgamation, the smaller communities adjacent to Ottawa were growing quickly and had processes in place that made the permitting and requirements relatively easy from a developer's perspective. There was very little growth in the Ottawa urban area and, because staff did not do a lot of it, the processes were not as smooth or fast.
 - b. Since amalgamation, the process they use are based on the old Ottawa system. The process is slower and somewhat more cumbersome than it used to be.
 - c. Many of the smaller communities had (and still have) different rules concerning development issues (set back requirements etc). These rules have not been coordinated yet through the new city.
 - d. Despite all of the above info, the process in Ottawa is workable and is better than some other communities where Minto is doing development.
3. Community growth continues. Although the high tech businesses are downsizing, the federal government is hiring and offsetting the job losses at places like Nortel. Approx 7,000 housing units will likely be constructed in Ottawa this year.
4. Issues for Jack from the Developer's view.
 - a. He needs to know what is required to have smart buildings and what equipment he needs to install to meet that need.
 - i. He is willing to do what is needed once he knows.

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- b. He likes the “Futureway” model as a concept. Several years ago, Minto looked into initiation of Futureway type development servicing but did not pursue it.
 - c. Suggested options:
 - i. Developer installs duct (that is okay with Jack)
 - ii. Developer installs fibre from the building to the road (that’s okay with Jack too).
 - iii. In discussing the fibre to the road concept we discussed that telecom, because it is a competitive service, is harder to manage in this way.
 - 1. Who do you connect to at the road? I suggested that perhaps it is Telecom Ottawa and Telecom Ottawa agrees to lease fibre to other carriers so the building tenants/owners could have multiple carriers providing services to the building.
 - 2. Jack thinks that is a good way to do it.
5. Definition of Broadband
- a. Jack is not a technical person although he agreed that the definition in the ToR should likely be modified so that residential “high speed” options currently available would meet the term broadband.
6. Jack’s View of the Role to be Played by the City
- a. The City should be a smart wired community.
 - b. Everyone should have access to a minimum level of service.
 - c. Once it is determined what is required for new developments (commercial and residential) the City should incorporate the requirements into development agreements.
 - i. Jack said that developers will pay for whatever is required. Duct to the road, fibre to the road etc even in residential developments.
 - ii. Developers (some) may grumble about it but the cost for duct etc is minimal when it’s installed at the same time as the other shallow services.

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Notes:

Meeting with Paul Wilker and Chris Cope

OCRI

September 17, 2002

11:00 – 12:00

Background Info:

1. OCRI

- a. OCRI was formed by the City to address telecom needs and applications in the community. City provides some funding and other funding for the various initiatives comes from others as well.
- b. Sm@rtCapital is an OCRI initiative that received significant funding from the Smart Communities Program to develop applications and community services enabled through community access points.

2. Other OCRI initiatives:

- a. Chris Cope looks after the ORCnet (Ottawa Rural Communities network).
 - i. ORCnet was formed to coordinate and create a demand for high speed services in the rural area. They have hosted community meetings etc to make a business viable for wireless (or other) high speed service providers. It has worked well in North Gower with 500 attendees at the community meeting and 120 or so signing up for Storm wireless services. It also drove Bell to provide DSL services in Richmond and they are considering doing similar things in other areas (like Osgood).
- b. Jim Yuan looks after the ORAN (Ottawa Regional Advanced Network) project.
 - i. It is a new initiative to provide a vehicle for the MUSH group to have consolidated services and to connect them together through an advanced network. This connection will likely be at the ORION POP that is being installed at City Hall. (One of the documents we received was about this initiative.)
- c. OTTIX is a group of small ISPs who are aligned to provide various services for the OCRI partners.

3. Services

- a. The rural initiative (ORCnet) goal is to enable service providers to make a business case to justify provisioning in rural communities.
- b. It is focused on residential with the hope by the service provider that business customers will buy the service as well. To date, very few business customers have signed up.

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- c. In North Gower:
 - i. The SOHO and teleworkers were about 50% of the customers signing up for service. The others were regular residential users.
 - ii. This is a good thing from the City's perspective. If people are working at home, there is less need for infrastructure expenditures (like roads) and many of these SOHO people may be starting viable businesses that could bring future employment etc to the area.
 - iii. On the negative side approximately 40% of the people wanting service could not get it because of line of sight and/or cost issues.
 - 1. OCRI would like to try the Nokia technology with wireless devices that do not need to see the tower directly as long as they can see another device in the network.
 - iv. For the farm community there are approx 1200 farms in Ottawa. Mostly dairy with an average size of 600 acres.
 - 1. Only about 50% of the farms have a computer. Main use by farmers that was identified in a survey was for word processing.
4. Issues:
- a. There are 55 rural communities in Ottawa. Most of them are not big enough for the service providers to justify going there.
 - b. ORCnet funding from the City is currently about \$60,000 per year but it is not committed future funding. Paul and Chris both feel this funding should be increased because the initiatives and coordination role of ORCnet is crucial to keep the rural initiatives going.
 - c. OCRI would like City funding to develop applications for e-government etc. No one else is doing it. Municipal services could be better coordinated through applications that could be developed.
5. Definition of Broadband
- a. Both Chris and Paul agreed that the definition in the ToR should likely be modified so that residential "high speed" options currently available would meet the term broadband.
6. Paul and Chris's View of the Role to be Played by the City
- a. The City should fund towers to be placed in communities where the service provider does not have a sufficient business case to fund the towers
 - b. The City should fund ORCnet on an ongoing basis at higher levels so that rural development of broadband can continue.
 - c. The City should fund OCRI to develop applications for the network that is being built.

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Notes:

Meeting with Larry Spencer

Policy Advisor, Councillors Brooks and Eastman

September 19, 2002

11:00 – 12:20

Background Info:

1. Rural Initiatives

- a. The current rural broadband initiatives that are underway stemmed from a desire by Councilor Brooks to have broadband available for his constituents. This was based on what he was hearing from them. About ½ of the vocal constituents are SOHO or teleworkers. There is a desire by the City to promote economic development and this is seen as a good way to do it.
- b. Councilors Brooks and Eastman then took the initiative and contracted with Larry to help with this work. City IT staff tend to look at the City's requirements and are not concerned with this type of connectivity for constituents. They have no desire to have a communications network beyond their own City needs.
- c. Ian Duff in Business Development at the City has a document of the rural inventory in Ottawa that we should get.
- d. There are between 12 and 24 villages in Ottawa and over 50 when hamlets are included (Populations between 20 and 2000). This current rural initiative tends to focus on the smaller half of them.
- e. The main objective of the current initiative is to bring a broadband infrastructure to rural Ottawa (economic development) and this should be driven by the private sector (Service Providers (SPs). They (the City) have no desire to be a commercial entity but do want to help justify to SPs that it is worthwhile to provide services to smaller communities.
- f. The initial group from all of rural Ottawa that indicated a desire for broadband totaled about 40 individuals. 20 of these representing various community sectors were the driving force behind the formation of ORCnet.

2. Their Plan

- a. It initially had two components:
 - i. Organise the group, set up a governance structure for this group initiative and then do market analysis and basic business planning in proposed target communities.
 - ii. Do a pilot project (that was North Gower) with a local community champion (in North Gower it was Cary Connell). ORCnet would work with the SPs and other providers to get the service available.
 1. The SP (in the case of North Gower, Storm) would have the service in place and ready to connect customers before any community meetings would be held.

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2. Storm, as a part of the pilot agreed that 12 – 15 residential customers and 3 – 5 commercial customers would be enough for them to provide service. (some question about these numbers as some of the ORCnet literature says it was 20 res customers and several businesses).
 3. The City had a tower available and a lease was arranged for Storm that was similar to other tower lease agreements in the area.
- b. Councilor Brook's budget funded the pilot:
 - i. A press person was hired to attract the press to the community meeting. (\$3,000)
 - ii. Brochures were created by Larry and dropped at 6,000 mail drops
 - iii. Posters were put up in the community.
 - iv. Several ads were placed in local papers.
 - v. Other than the media person, average budget for each open house has been \$2,000 – 3,000.
 - c. The open house expected approx 100 people. 500 arrived.
 - i. Of those 500, 120 have signed with Storm initially and 30 more subsequently.
 - ii. Approx 50% of those who signed could be served because of line of sight and/or cost issues.
3. Other Communities since the Pilot
 - a. Carp (600-800 people) and Kinburn (300-400 people) had a joint open house and now have Storm services in their area. Approx 200 attended their community meeting.
 - b. Richmond now has Bell DSL service.
 - i. Technical issues were not resolved before the Bell service offering causing some problems.
 - ii. Bell has about 170 DSL subscribers in Richmond.
 - iii. Rogers is planning to provide service in Richmond in the near future.
 - iv. Storm is a Bell DSL reseller and have about 30 customers through their service in Richmond.
 - c. Metcalf has Bell DSL and Storm wireless service available. Not much promotion has been done there and they have had limited take rates.
4. Challenges Found:
 - a. Line of sight issues with wireless
 - b. DSL technical limitations (Bell now do testing of their copper and know where they can provide DSL in a community and where it cannot be done).
 - c. Rogers. The perception among the public in the Ottawa area is that Rogers cable modem service does not work well (because of the shared bandwidth issue).
 - d. The farm community
 - i. Obviously DSL will not work.

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- ii. The demand at this point does not seem to be there. Very little interest at community meetings from farmers.
 - iii. Politically it is important to have the service available for farmers.
 - 1. “Selling” what can be done with high speed service needs to be done with the farm community.
 - 2. Applications have to be there for it to be useful.
 - 3. Case studies (the Richmond area implement dealer who needs it for his business) could be used to help promote in the farm community?
5. What has been found to be critical for success:
- a. A local community champion who is willing to put in the efforts, knocking on doors, doing posters etc to make it happen on a local basis
 - b. Involvement and support of the local councilor. Financially through some funding for open houses, physically through his/her presence and vocal support and at the City hall helping to cut through red tape and make it happen.
6. Larry’s Views on what needs to be recommended for a strategy
- a. Telecom Ottawa should provide an open architecture to tower sites.
 - i. Private sector should install most towers where nothing is in place.
 - ii. Telecom Ottawa, as a part of the community benefit component, should charge the tower users at the same rates as they charge MUSH sector customers.
 - iii. Where a community is very small and a private sector partner cannot justify a tower expenditure, the City should assist with funding.
 - iv. This could be a monthly surcharge on taxes for users of the service?
 - b. City should put more permanent support in place for ORCnet (not the 2 days a week funding for Chris Cope that is currently temporarily in place). For this effort to succeed, more effort is required.
 - i. ORCnet’s focus should be on:
 - 1. Marketing, promoting
 - 2. Use of the network
 - 3. Value of the services to the customers
 - 4. Application development

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Notes:

Meeting with Cary Connolly
Community Champion, North Gower
September 23, 2002
17:00 – 18:30

Background Info:

1) Cary's Involvement

- Cary lives in North Gower and was the “community champion” who did a significant amount of community work to make the North Gower pilot with ORCnet successful.
 - He is a consultant in telecom and had an interest in a high speed link to his home.
- On his street 70% of the residents are workers in the high tech industry.

2) Comments on Success and Challenges

- a. Success in North Gower had a lot to do with the community size and the residential make-up with a significant amount of high tech.
- b. Challenges to the number of people to ultimately connect had a lot to do with the connection fee of \$400 by Storm. Many people were unwilling to pay this fee when they saw Sympatico advertised with a very low install fee.
- c. Suggestions from Cary:
 - i. Education of the residents is critical. Many do not know what they would use a high speed connection for.
 - ii. Education of businesses and farmers is the same issue.
 - iii. Once people are educated, sales of high speed connections would rise (even in urban areas where “take rates” varies from 10 to 18% even though high speed is available to all)

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Notes:
Meeting with Alf Chaiton,
Senior Advisor, Office of the Mayor
September 13, 2002, 13:30

Alf's main area of knowledge and input is in the area of Governance and the perspective of the City.

The following points were the key ones in Alf's view

1. Since the amalgamation of the City, the driving focus has been on collaborative efforts and consensus building.
 - a. This has taken a while and has not always worked but they are still doing it.
 - b. Even with the Steering Committee we are preparing this report for, there are representatives of most interested sectors in the City.
2. The Governance Model we recommend should be collaborative but the "Governing Body" should have
 - a. The Authority, Responsibility and Resources to complete the determined objectives. They must also have the agreement of the involved parties in the community.
 - b. Additionally they should have matching responsibilities. The example Alf used to illustrate this point was the Provincial Government gave the City 57 million dollars to widen the Queensway. However, if the City had received this money and been asked what road project should it be used for, the Queensway was not the one the City would have selected.
3. The City has no specific agenda to centralize service provision. Their goal is to have it happen. Along with this the current City Mayor does not have a political agenda to have his name or picture in the paper. This effort could be successful without the City garnering the credit.
4. In other projects, as with this one, the City will act as facilitator. The agenda and needs are to be determined by the community (in our case the steering committee until public consultation sessions are held after the initial draft is completed and out for public consultation.)
5. I asked if the City would be willing to install and own ducts for the use of all carriers or even further, would the City install fibre and lease it to all? City will not:
 - a. Be the owner of any telecom infrastructure. They do not want to do this.
 - b. Be a service provider themselves.
 - c. Invest money specifically to make this happen (see what they will do below)
6. The City will:
 - a. Be the facilitator of the process
 - b. Have input into the process as a major user of the services.

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- c. Leverage their current budget allocation for telecom services to help make things happen;
 - i. They may be willing to install a tower to provide service to one of their facilities and this tower could be used for community service to others.
- 7. The resulting services of broadband should be equitable for all City residents.
 - a. When I asked Alf the meaning of equitable I used the example; does equitable mean that all residents have broadband service available but the rural community may have to pay \$60 per month while urban residents pay \$40 per month.
 - b. Alf's feeling is that equitable is both service and price equality.
- 8. I asked if the City owned Telecom Ottawa installed dark fibre for the purpose of leasing it to all competitive carriers would this be okay.
 - a. His response was that as long as it was open and not restricted through pricing etc., this might be acceptable. We did then discuss the expected willingness of the incumbent carriers to do this!!
- 9. They are considering a single cut road policy for all City roads (if the road is cut, it cannot be cut again for at least 3 years. All firms have the chance to install duct when it is cut the first time.).
- 10. In the order of the City's priorities where do environmental issues (such as the aesthetics of towers) fall?
 - a. Because towers are federally regulated, the City has limited influence. However, because of the EA requirements sometimes towers can be stopped or relocated.
 - b. Alf thought the idea of us suggesting carriers share towers was good but unenforceable. However, the road cut policy is an example of something similar that works.

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Notes:

Meeting with Bill St Arnaud

Canarie

September 18, 2002

09:00 – 10:00

Background Info:

1. Canarie
 - a. Bill is the Senior Director, Advanced Networks for Canarie. Canarie is a research and educational network that spans Canada. It is not used at all for commercial traffic and has no ISPs connected to the network or any other commercial businesses with the exception of businesses that have ties to the Canarie members and use the network for research purposes.
 - b. Bill (and through him Canarie) has been a strong proponent of various flavours of dark fibre. (Condo fibre etc). Bill is very knowledgeable about what's happening in communities worldwide.

2. Discussion topics:
 - a. Bill is very supportive of the Telecom Ottawa rural initiatives (working with Storm and/or others to provide broadband to the rural areas. Dave Dobbin met with him yesterday and shared the planned network map.)
 - i. Managed services in rural Ottawa make sense. There is no business case for a service provider like an ISP to pay for dark fibre. Use of the rural towers is the only reasonable way to serve the rural community.
 - b. Bill feels dark fibre should be universally available for anyone who wants it and the pricing should reflect cost. Bill feels that current dark fibre pricing is too high. Price based on actual cost per strand plus a reasonable margin is how it should be priced from his perspective.
 - i. These costs should be documented to justify the charge rates.
 - ii. Operational costs should also be included in the documentation prepared.
 - c. Bill mentioned the need for a carrier neutral facility for all carriers to meet. He feels that the ORION POP at City Hall may be a good opportunity to do that.
 - i. He also feels that Telecom Ottawa could be the provider of fibre in the City for all carriers. This could be on an IRU basis or his preference for condo fibre builds. He talked briefly about the Montreal case as an example of how this works. According to Bill it has been in place in Montreal for over 30 years.

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- d. There is a business case example of fibre to the rural community in Grant County of Washington State. Apparently they have fibre to the farm. The business case is for bundled telecom services including voice and video over the fibre link. Bill's feeling that Internet supply alone would not justify the business.
3. Fibre To The Home (FTTH):
 - a. Discussed the concept of fibre to the home and/or neighbourhood.
 - i. This system will be driven by demand. Applications that Bill feels are likely to make this happen are mainly file transfer apps.
 1. Bill mentioned one typical app that is coming and that is DVD quality video files. Similar to the Distream idea but the full (multi Gb file) is downloaded to local servers on the network and then when you wish to watch it, it just comes from those local servers.
 2. CISCO apparently is working on some technology to do this called "Spanish Inquisition".
 3. It will require Gb to the home to work well!
 4. Bill does not feel that video streaming will work well because of the non-robust nature of home type connections in today's environment.
4. Definition of Broadband
 - a. Bill feels that broadband should not even be defined. It should be driven by the needs of the user and could be anything from 5Kb to 5Gb for example.
5. Bill's View of the Role to be Played by the City
 - a. The City should continue to do what has been happening in the rural areas.
 - b. The City should take a proactive role in policies and bylaws to promote the infrastructure throughout the area.
 - c. Telecom Ottawa should become the open network for carriers within the City or at least the primary supplier of Condo fibre.
 - d. Although Ottawa is relatively advanced in this initiative compared to others in Ontario, the initiatives need to move much faster.

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Notes:

Meeting with George Assaff

City of Ottawa, ROW

September 24, 2002

11:30 – 13:10

Background Info:

1. Current ROW management Practices:
 - a. There is currently a Bylaw at the City of Ottawa concerning cutting and reinstatement of roads. It currently applies to arterial roads but is under consideration for expansion to cover all roads.
 - i. It covers the entire City of Ottawa.
 1. Costs involved include a pavement degradation fee.
 2. Also includes a 3 year moratorium on any new cuts (except in cases of emergency)
 - b. Telecom firms must have an MAA with the City of Ottawa to get permits for use of the City ROWs. (without this MAA the permits from the firms must go to Council for approval.)
 - i. New firms have 6 months of operation before the formal MAA must be completed.
 1. Telecom Ottawa's MAA is still being negotiated.
 - ii. Ottawa were the first City to actually complete and formalize an MAA with Bell Canada (in Feb of 2002)
 - iii. The MAA covers the five principals suggested by the FCM (Federation of Canadian Municipalities). Four of these are:
 1. The City has the authority to impose these requirements
 2. The City accepts no liability associated with telecom installations
 3. The City will not pay costs for associated work relating to telecom firm installations
 4. The City can charge rent for use of the City ROW (This feature has not been invoked pending the final decision regarding the Leadcor case in Vancouver)
 - iv. Controversial issues re MAA requirements with the carriers:
 1. The City can require the carrier to install an extra duct for the use of others. The installing carrier owns this duct and charges to others are to be held at market rate at the time.
 2. Carriers installing fibre can be required to make dark fibres available for the City's use. (This is currently under review)
 3. When relocation is required of the telecom plant due to City work (road widening etc), the telecom firm pays 100% of relocation costs.

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- a. Bell is an exception to this requirement as the incumbent carrier. Bell pays something less than 100% of the cost.
 - v. Some carriers dislike taking 100% of the liability.
 - c. Permitting Issues:
 - i. All City work involved with issuance of permits to telecom firms will be done on a cost recovery basis.
 - 1. Modeling is currently under way at the City to determine what the full cost of permitting actually is. George feels that the current charges recover as little as 25% of the actual costs. Once this modeling and cost changes are completed, this eventual permit cost may be an incentive for the carriers to coordinate their systems and do more efficient infrastructure planning.
 - ii. Ottawa has a Public Utility Coordinating Committee (PUCC). It is currently under study for improvements in process.
 - 1. There is a central registry for all ROW infrastructure. It is kept up to date and the users all share in the cost for this service with the City paying 50% and the others paying proportionate to their usage.
 - 2. There is a polling process. If a carrier wants to install cable, a poll is done of all interested parties to make sure that no one else has a desire to install plant at the time of the original installation.
 - a. There is some concern with this process. There is no set time for others to indicate interest (or not) possibly delaying work.
 - 3. City position on installations is that there is an equal opportunity for all telecom firms. If a new development is being done, all carriers have the opportunity to place their plant in the trench. (Res or commercial buildings). This is supported by a City bylaw and is relatively recent.
 - 4. Stream Concepts
 - a. George has seen the Stream sewer technology work in Toronto. Nothing has been done with that technology in Ottawa.
 - b. George feels it is a good option for retrofit installations avoiding road work.
-
- 2. Current City Issues:
 - a. Access to information from the telecom firms has been difficult.
 - b. Sharing of fibre and co-builds have been difficult to put in place and have any influence by the City.

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3. Suggestions for Changes and Vision.
 - a. George feels that new development and services should be done by one installer for all services
 - i. A certified inspector could be found and/or trained to look after deep services as well as hydro, telecom and gas.
 - ii. Sewers (the Stream technology) should be used more in retrofit situations avoiding road disruptions and repairs.

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Notes:

Meeting with Bruce Stansfield & Jim Carnegie

City of Ottawa, Towers

September 24, 2002

08:40 – 10:10

Background Info:

1. Tower Activity to Date:
 - a. Approximately 3 years ago, Bruce met with the carriers to try to encourage co-location of facilities on Towers. There has been some success, but also some resistance.
 - b. Towers have been going up in the City for others without Bruce's involvement or knowledge. When the towers are going to be on City land, Bruce will know about it but otherwise there is not a mechanism in place for Bruce to find out of impending installations.
 - c. Bruce feels there is significant benefit in allowing other users on existing towers and the City is willing to do this where technically feasible.
 - d. Some carriers charge quite a bit for collocation space on towers. This discourages the local wireless firms from attempting to offer services in the areas affected. Time/MCI has taken this position in the past with fees as high as \$15,000/year for a tower space.
 - e. Telecom Ottawa owns 5 towers. One of them is in Osgood at the library. Bruce has taken the position that it is on City land and the liability issues around the installation rest with the City so the City should control tower use. This same position currently applies to the other Telecom Ottawa towers.
 - f. Tower space lease agreements are already in place for several of the City owned/controlled towers.
 - i. Pricing for the rural initiatives that have taken place has been negotiable.
 - ii. Storm received a fixed fee price with a revenue sharing arrangement with the City should more than X customer be served from the North Gower tower.
 - iii. In smaller communities there may be a need for funding to totally eliminate the tower lease cost but the City still needs to have revenue for the tower costs. Funding may need to come from a rural initiative fund?
2. Bruce and Jim provided:
 - a. A map showing all towers in the city with a legend identifying the ownership of the tower and a radius of 8 km. This map shows potential gaps in wireless coverage should wireless firms be able to use every tower.

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- b. A map showing City owned towers.
 - c. Bruce and Jim will provide a spreadsheet showing the City tower information about height, tower type etc.
3. Recommendations for future improvements
- a. The City should budget funds for tower replacements. In communities where the City could use additional height in a tower and the community could be served with wireless broadband from a higher tower, the City's budget should cover the tower costs. The old replaced tower could then be redeployed to an area to provide additional coverage.
 - b. Bruce (The City) should receive copies of applications for all tower installations within the City. In this way, coordination of needs and a possible reduction in the total number of towers could be possible. Two towers adjacent to each other have environmental and visual impacts on the community and there is a possibility that the City could avoid this type of situation with a coordination role.
 - c. Independent tower firms (in business to lease tower space) could reduce capital requirements of the City and provide needed tower placements.
 - d. City property should be used wherever possible for tower locations throughout the rural (and urban) area.

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Notes:

Meeting with Greg Geddes, Alain Rochefort and Dave Johnson

**City of Ottawa, IT
September 25, 2002
14:00 – 15:00**

Background Info:

1. Background Information
 - a. City connectivity to sites is a mix of 10Mbps, T1, wireless and dial up.
 - b. City policy now is to:
 - i. Ask Telecom Ottawa if they can provide the service (at a predetermined rate)
 - ii. Go to other telecom firms if Telecom Ottawa cannot provide the service in the time required.
 - iii. Generally one year contracts are negotiated with others where Telecom Ottawa cannot meet time lines so that Telecom Ottawa has time to build the required infrastructure to meet the next contract period.
 - c. The City inherited many contracts through the amalgamation.
 - i. They have various terms and timing.
 - d. New City facilities are a challenge for IT since budget constraints limit funding available for telecom connectivity.
 - e. City goal is to eliminate rural dial up connectivity.
 - i. The City has a network renewal project underway mainly dealing with the issues surrounding all of the inherited systems during amalgamation.
2. User and application information.
 - a. Most connectivity contracts are now going to Telecom Ottawa.
 - b. The City staff expect it to be a 2 to 3 year process to migrate services over to one carrier.
 - c. Internet Access is now mainly through Telecom Ottawa.
 - d. City staff are looking at VoIP for the future.
 - e. E-services
 - i. Future e-services will be available through the City with 60% of the e-service efforts targeted at external users.
 - ii. E-democracy initiatives:
 1. Support official plan
 2. Webcasts from the City and video conferencing to community facilities is planned for the future.
 3. The goal is to have community video facilities and applications available for community members.
 4. Council in Ottawa is very supportive of these initiatives.

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5. Some of this work has been done with OCRI

3. Coordination of Services
 - a. The City staff are having and have had discussions with the OCDSB regarding consolidation of services.
 - b. IT staff also are attempting to coordinate needs with other City groups including the Traffic section.
 - c. City IT look after all communications for the City facilities. Usually the voice and data systems are on a shared link into the telecom network.

4. Information available
 - a. Telecom Ottawa has a list of City sites with some information about connectivity.
 - b. Planning in the IT group has been focused on the requirements of amalgamation. This work is expected to be completed in the spring of 2003.
 - c. Actual detailed cost information is not readily available. Greg mentioned that it would likely take about 1 to 2 weeks of effort to get all of that information summarized. (I mentioned that although it would be good to have the information since part of the terms of Reference was that current expenditures of the City could be leveraged to assist with community high speed connectivity, it is not absolutely critical to the end results and recommendations.)
 - d. Greg said that budget information for the IT section would be of very little value since their budget is continually under review and it is so “tight” that there is very little opportunity to have funds to leverage.

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Notes:

Meeting with Seymour Diener

**City of Ottawa
September 30, 2002
12:00 – 13:00**

Background Info:

1. [Sm@rtCapital](#) Project
 - a. Seymore is working on the [Sm@rtCapital](#) project
 - b. It has 12 more months to accomplish its goals
 - i. E-democracy through applications being developed
 - ii. Video and web casting are the main bandwidth drivers of this program.
 - c. Smart Facilities such as having City Hall enabled in all (most) meeting rooms for video and/or web casting capabilities
 - i. Having Smart meetings where the meeting at City Hall or a remote site could be video conferenced with other locations avoiding travel issues and getting the democratic process out to the residents of Ottawa.
 - d. The Vision of Seymore and [Sm@rtCapital](#) is to have a tool box of offerings available:
 - i. Services such as
 1. Video conferencing
 2. Video on demand
 3. Caching of information so residents can access it at their leisure
 - ii. These services would be available for both internal staff use and for applications that meet a public need.
 - e. A budget would allow for staff to pick and choose the services from the tool box that they should use, allowing staff to prioritize their needs and the associated costs.
2. Issues and follow-up
 - a. Many of the broadband applications and requirements currently being worked on would apply from the City to local community centers or businesses.
 - b. Most of these apps would not apply to individual residences.
 - i. Some could but many do not.
 - c. Seymore to think about additional items that could drive the need for broadband service to the residential community.

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Notes:

Meeting with Jeffrey Dale

President & CEO, OCRI

September 25, 2002

10:00 – 11:15

Background Info:

1. General Discussion Items
 - a. OCRI was formed in 1984.
 - b. Funding:
 - i. City funds \$2 million per year and this is used for the base OCRI funding.
 - ii. OCRI receives approximately \$.5 million in various grants annually
 - iii. Membership fees total approx. \$ 1 million annually
 - c. Programs other than the ones that are well known such as ORCnet, [Sm@rtCapital](#) etc.
 - i. OCRI has a technology coach program where all grade 5/6 students in Ottawa are exposed to technology through this program.
 - ii. The program also assists in getting available grants etc for education in this area.
 - d. Currently fibre connectivity for some OCRI needs is through Telecom Ottawa.

2. Strategy Recommendations:
 - a. The following information is Jeffrey's thoughts on the strategy that needs to be employed to make this initiative successful. It is broken into 2 parts: private and public.
 - i. Private
 1. Avoidance of involvement in competitive areas will be crucial to the success of this initiative.
 2. Aggregating demand has been shown to work and it should continue:
 3. Issues of the funding for ORCnet.
 - a. There is no sustained funding commitment to keep the ORCnet initiatives in place.
 4. For residential customers this initiative should be looking into the future with a minimum infrastructure of Fibre To The Neighbourhood (FTTN).

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ii. Public

1. Policies and goals need to be set. They should be specific by the geographic areas served, time lines for services and expected penetration rates.
2. OC3 (155Mbps) service should be available into the neighbourhood or street. Bandwidth available should support 3 or more users on simultaneous audio and video streaming.
3. March Networks has a product available in the video health field that deals with blood pressure, oxygen monitoring etc with Blue Tooth capabilities.
<http://www.marchnetworks.com/solutions/hometelehealth.asp>
4. Community Care Access Centres (CCAC).
 - a. Currently spend 42% of budget for administrative functions and 58% on health care. Much of the admin cost could be reduced and health care increased with telehealth applications.

3. Broadband Drivers:

- a. Current telecom billing is based on two functions, volume of usage and peak demands on the system.
- b. Demand drivers are mainly in the areas of health care and education.
 - i. Education example:
 1. e-pals is a public school application where students have an on line chat facility with their peers.
 2. It encourages younger students to become familiar with the technology so they will become future users of services and the capabilities of telecom applications.
 3. Homework applications by email are already in place in Ottawa where homework is assigned and completed on line.
 4. For socially disadvantaged students, this work can be done at [Sm@rtCapital](#) centres at the work stations provided. In that way, these children have access and become comfortable with the skills and applications of today's technology.

4. Governance

- a. Advisory Group Make up
 - i. Carriers should be included.
 - ii. Several advisory groups are required in various community sectors, one large group would be unworkable with all of the various community sectors competing for their issues.
 - iii. These groups need to drive change.
- b. A City Planner could receive the information from the advisory groups.

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- c. ORAN could provide this advisory function organizing the sector groups and facilitating the process.
 - i. The carriers could fund this initiative for advisory groups.
 - ii. ORAN could represent the MUSH group. Interconnection among the MUSH group members is important.
 - iii. Aggregating the customer demands through ORAN, particularly the MUSH group could be an ORAN function.
 - iv. Service Providers need to be involved in the process.

- 5. Alternative Technologies
 - a. Satellite Technologies (particularly the KU band) and wireless terrestrial connectivity may be the best solution in smaller community areas.
 - b. Wireless PC card technology could be employed to give connectivity from the wireless hub to the user.
 - c. The City could provide information kits to the Community on these opportunities and options for connectivity.

- 6. “The City must take responsibility to bridge the digital divide”.
 - a. The digital divide is not only technical but it is also geographic and social;
 - i. Geographic divide between the urban and rural areas of the City.
 - ii. Social between the City residents who have the resources to purchase and use the technology and those who cannot afford the computers required or the ongoing monthly costs for telecom connectivity.

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Notes:

Meeting with Jim Yuan

OCRI
September 30, 2002
09:00 – 10:30

Background Info:

1) General Discussion Items

- OCRInet was the organization that Jim joined in 1992/93.
 - It was intended to be an ATM network (operating at OC1).
 - Bell supplied connectivity
 - It was for R&D purposes.
 - With no education components or commercial business opportunity, the “business” was not sustainable.
- Lessons learned from the OCRInet experience:
 - A network needs to be production oriented to achieve sustainability in the long term and
 - A sustainable technology must be employed.
- ORAN
 - Original plan was to implement a dark fibre local backbone network within Ottawa. Last mile connectivity would then be the only issue that would have to be resolved.
 - Videotron submitted a proposal to provide the dark fibre for \$0.5 million
 - Videotron then underwent ownership changes and the offer was no longer available.
 - Telecom Ottawa then proposed that they could provide all of the network needs for ORAN.
 - This eliminated the network issues for ORAN and was at a reasonable cost.
 - ORAN could then operate with one or two staff to deal with operational issues, network issues would be dealt with by Telecom Ottawa.
 - Claude Dufresne chairs ORAN at this time.
 - To be successful ORAN meets the ORION network at the ORION POP at City Hall allowing the ORAN members to have connectivity to ORION.
 - ORAN is intended to serve the MUSH group in Ottawa.
 - Intention is that services will be kept simple (up to Layer 2 VLAN services only initially) with additional

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complex/value added services to come later as comfort and credibility are established.

- As time progresses, likely in year two, consolidation of services among the ORAN member group is anticipated.
 - Internet purchased bandwidth etc.

2) Rural Infrastructure Options:

- a. Mesh wireless technology will likely allow additional locations to be connected to a rural wireless network. However, there will still be gaps in coverage due to line of sight (either to the main tower or another network location when employing mesh). Mesh technology will also be more expensive (at least initially).
- b. Equity among users:
 - i. Jim suggested that a model similar to the electrical system or gas system model could be used:
 1. Service price is the same for all users.
 2. If additional infrastructure cost is incurred to serve a customer, that customer pays an additional amount (either up front as an install fee or on the monthly service charge or a combination of the two).
 3. This suggestion is similar to connecting to gas or electricity if the service location is distant from the existing infrastructure.
 - ii. The “upper bound” for pricing and options is satellite connectivity. Install costs and monthly fees for satellite are significantly higher than for terrestrial based services. Satellite also has the drawback (currently) of being one way, download only. Upload must still be done over the phone network (typically). This may be acceptable for home users but may not meet business needs and may not meet future requirements for symmetrical services for home users.

3) New Development:

- a. Jim feels that fibre should be installed in all new developments.
- b. For fibre in new developments, there must be a mechanism to allow for competitive services avoiding the “Futureway” model of accepting the connected service provider with no choice.

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Notes:

Meeting with Vic Allen
Upper Canada Networks (UCNet)
September 21, 2002
09:30 – 11:15

1. Critical success factors,
 - a. Thorough understanding of technology to be used.
 - i. Vic's friend in the RF field worked with them for quite a while. After a while they let him go. Should have kept him.
 - ii. Integrator they ended up using was not a wireless guy.
 - b. About 20 customers on network now (started in mid-May). Have not yet launched a marketing campaign. Customer knowledge is limited. IT people are not knowledgeable in telecom. Despite the demarc point line, customers expect assistance right to the desktop. That has been a challenge for UCNet to provide that service.
 - i. User group being assembled so the customers can share in opportunities together.
 - c. Difficulty in operating as a co-op (membership requirement). Member context is central to the community point. Practical application of this community idea is that the "customer" now looks on UCNet as a commercial provider and expects comparable services as he would get from a traditional Telco.
 - i. School Boards are members but now that the service is ready to be available, they are uncertain that UCNet should be the second connection. Lack of credibility of UCNet. Need to make a special case for education of the customers.
 - ii. Need the MUSH group from a UCNet business perspective to become self sustaining. They do not have them (generally) as customers today.
 - d. Some customer education application development has been done in the following 6 clusters.
 - i. Schools
 1. Did very well because of person/volunteer doing it.
 - ii. Health Care
 1. Broad scene for Eastern Ontario was attempted with other groups in that part of the Province. Individual hospital clusters did not work well together. Doctors (older) are not comfortable with PCs. Doctors seem to distrust the Provincial Govn't and the process has not worked well.

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2. It is getting better now. Provincial Health Net initiative is now helping to drive it.
 - iii. Agriculture
 1. Nothing much yet. OFA initiative in Elgin. Excitement yet to come.
 - iv. Tourism
 1. Web portal in Atlantic Canada. Offered a group of tourist related businesses that UCNNet could set up the portal and operate it through UCNNet. Two main groups would not work together. The St Lawrence and Rideau Valley Groups. The Rideau Valley group went and did it themselves using the Atlantic Canada Portal design.
 - a. 12 people supporting the portal in Merrickville over the UCNNet pipe into the community.
 - v. Small Business
 1. Did several seminars on e-business. Not much interest generated. No follow through yet.
 - vi. Big Business
 1. Early meetings, now being resurrected
 - vii. Smart Community project.
 1. Working with Telus on software to be adapted for municipal applications.
 - e. Cyberbridge project. Fibre link from the Ottawa area to New York State.
2. Economic models
 - a. Only cost effective solution has been fixed wireless into wireline.
 - b. Can use DSL but don't because of focus on business and public sector and the need for synchronous traffic capability.
 - c. Among community based groups like UCNNet, there needs to be an understanding of the CRTC regs and a broader understanding of how a community network should evolve.
 - d. Did not realise the degree the business model would be constrained by internet pricing from incumbents. Became a major cost barrier.
 3. Supporting conditions such as government lead programs
 - a. \$1.1 million has been received. \$725,000 is yet to come because of the lateness of installation etc.
 - b. Had to do an inventory of equipment so the gov'n't would pay. Audit by the gov'n't is delaying the payment of the funds.
 - i. All reports are in and fine.
 - ii. In next couple of weeks Prov auditor will be coming in.

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- c. No money left, positive cash flow is a ways off yet (a few months yet).
 - i. The model does work from the services side.
 - ii. Financing is difficult as a not for profit organization.
4. Community advocacy groups that could be duplicated or modelled here in Ottawa.
 - a. Started off 5 or more years ago as a small task force. Upgrading of switch in Prescott was first project task. 3 or 4 core members, ran workshops, UC Econ Renewal Project did connectivity analysis and future needs. The went on to TAP for the funding process.
5. Long term governance models,
 - a. Others have elected officials on the Board.
 - i. Avoided by UCNNet because of lack of knowledge or interest in Telecom. They would require a lot of time explaining at Board meetings. Slow down.
 - b. Currently the UCNNet advisory board has David Southerland from Canarie, a couple of educators, others in the Applications area, Mayor of Brockville. Smart public people, local business people and specialists.
 - i. Vic said that they have neglected the advisory group the last 6 months trying to get operational issues going.
 - ii. 3 on the official board today. Functioning almost as a virtual corporation. Run as a project so far with lots of volunteers.

Vic Allen: General Notes

- Worked in consultation with Glen Brooks in Ottawa (the councillor that initiated the need for connectivity in the rural area)
- Attended separate meetings with the TOP (The Ottawa Partnership) group.
- In practical terms, it would make sense to do a fibre build down the River Road and down 416. (The Cyberbridge Project mentioned above)
 - They could pull fibre to the bridge at the Rideau.
 - Vic has a relationship with people in Northern NY
 - Fibre study has been done to bring fibre across at Prescott
 - Would be connected to the fibre trunks along the 401.
 - Need for co-los with carriers etc.
 - Partnership with AT&T for Internet
- The UCNNet Wireless network covers almost all of Counties (backbone connection with AT&T at Brockville)
 - Goes as far west as Kemptville

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- Main communities covered with the exception of Gananoque. (Planned for the future)
- Loop to be completed soon from Brockville to Smith Falls via radio.
- Backbone is at 45 Mb.
- Hope to work with school boards this fall (12 – 20 Leeds and Grenville Public Schools, about ½ this number to separate schools
 - All to be fed from current towers
- Current network is wireless and SDSL for last mile.
- Focus has been on business customers, goal to have ISPs do residential (has not worked yet).
- Storm worked on pilot for Kemptville office in March of 2000. Wanted a T1 for demo stuff. Bell wanted \$5500/mon. At least 3 firms were approached. WiBan out of Calgary were selected. Fixed wireless into office and ½ dozen connections at as low as \$300/month for actual 1Mb was arranged.
- Last Dec WiBan sold to Storm, interruption for 3 weeks after sale. Not a good relationship.
 - Storm would honour none of the relationship with WiBan.
- Some new ISPs in the area are interested in using the network
- Doing an experiment out of Merrickville to try to eliminate the high cost CPE. 802.11b equipment is being tested on a pilot basis in 4 homes.
- The elected officials are not terribly interested in big business, want to connect residential people (their voters). UCNet is researching that area. If no ISPs are interested UCNet may do it themselves.
- Another program is about to start. A resident is willing to put up a relay tower for additional line of sight connections, probably a residential focus, broadband.
- As mentioned in several other meetings, Vic stressed that to make it happen, there has to be a local champion emerge or it won't happen.

**Appendix C
Meeting Notes**

Notes:

**Discussion with Richard Sachs
Urbandale**

October 4, 2002,

13:50 – 14:15

- 1) What type of development is your firm involved in:
 - a. Infill development
 - i. No
 - b. Greenfield development
 - i. New development, large landowner in the Ottawa area.
 - c. Commercial
 - i. Some. Mostly relating to the needs for their residential communities and local services for those communities.
 - d. Residential
 - i. This is their core business with full community development.
 - e. Industrial
 - i. No.
- 2) Do you feel there is a need for a high speed telecom infrastructure in Ottawa to meet the demands of your customer base
 - a. Not hearing of the need from customers.
- 3) What are your thoughts about the City requiring:
 - a. Duct installed in all new developments for future telecom needs
 - i. Not currently essential. Not fair excluding the developer as a partner but requiring this type of thing. Customers aren't asking for it so why should the developer pay.
 - b. Duct and fibre installed in all new developments for telecom needs.
 - i. Same as (a) above.
- 4) Are you willing to fund the costs of this type of installation.
 - a. No because it does not help to sell homes.
 - b. Those who stand to benefit should fund it. Today, there is no firm that stands to benefit since there is no (or very little) demand for the service.
- 5) Other ideas:
 - a. Getting different people involved with promotion of the concepts of high-speed services and the benefits to homeowners.
 - b. Rogers can supply any needed high-speed services through their current system. Why build something that will possibly never be needed?
 - c. Urbandale has the most wired homes of all developers.
 - i. Trial in Kanata did not result in business.
 - ii. No services available that people wanted to buy.
 - d. Bottom line for Richard is that if people do not want it today, it does not help in selling homes, why should the developers have to pay for it?